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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,223	03/12/2004	Jason E. Dundas	6001-1002	7566

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EXAMINER

WIEHE, NATHANIEL EDWARD

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/799,223

Applicant(s)

DUNDAS ET AL.

Examiner

Nathan Wiehe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/12/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 9 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/12/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/12/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 3/12/2004 is noted.

The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98.

Accordingly, the information disclosure statement is being considered by the examiner.

Specification

1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it is too general and doesn't fully contain what is new in the art to which the invention pertains. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

The titles are underlined,

17a is referenced but not labeled in figure 1,

a space is missing between "31are" on page 11 on line 19,

a space is missing between "30are" on page 11 on line 21, and

16a of figure 1 is not described in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 13, 15, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Gastebois (4,802,824). Gastebois discloses an apparatus comprising:

a gas turbine wheel (2) with circumferentially spaced blade attachment lugs, which include a first side a second side and a top surface;

a plurality of blade platforms including a main body (9a) extending between the leading edge, trailing edge, first blade engagement side and second blade engagement side and a pair of platform retention members (17a, 16a) located on at the first blade

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engagement side and the second blade engagement side, respectively, wherein the platform retention members (17a, 16a) are adapted to be located on opposite sides of a disk lug to restrain radial movement of said main body; and

a plurality of blades (3) spaced circumferentially around the gas turbine wheel (2), each of the blades are located between a pair of attachment lugs and coupled to them, and a portion of the outer surface of each blade platform extends between an abutting pair of blades so that their outer surfaces adjoin to form a barrier.

Gastebois also discloses that the blade abutment surfaces correspond with the blade profile and are dissimilar with one another. The blade platforms taught by Gastebois are made of a ceramic material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 5-8, 10, 14, 16, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gastebois in view of Violette (3,801,222). Gastebois discloses the invention substantially as claimed except for abutment surfaces wrapping around a portion of the blades, a second pair of retention members, an outer surface of an aerodynamic shape, and metallic materials of construction. Violette also teaches blade platforms (20) with blade abutment surfaces (28,30) that wrap around blade (12) to better compliment the face and camber sides of blade (12). Violette also teaches a

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second pair of retention members (34,36) located proximate to the leading edge and trailing edge, respectively in order to transmit centrifugal loads. Violette further teaches blade platforms (20) with an outer surface (26) of aerodynamic shape and adapted to substantially cover the disk lug, in order to improve the aerodynamic qualities of the stage. Violette teaches a blade platform made of a suitable metal, so that the blades (12) and blade platforms (20) are of a similar material, but is silent as to the method of construction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Gastebois by including blade abutment surfaces that wrap around the blades, a second pair of retention member, an aerodynamically shaped outer blade platform surface, and metal construction as taught by Violette in order to better compliment the face and camber sides of the blades, transmit centrifugal loads, improve the aerodynamic qualities of the stage, and have blades and blade platforms made of similar materials.

The claimed phrases "cast" and "forged" are being treated as a product by process limitation; that is, that the blade platforms can be made by casting or forging. As set forth in MPEP 2113, product by process claims are NOT limited to the manipulations of the recited steps, only to the structure implied by the steps. Once a product appearing to be substantially the same or similar is found, a 35 U.S.C. 102/103 rejection may be made and the burden is shifted to applicant to show an unobvious difference, See MPEP 2113. Thus, even though Violette is silent as to the process used to form the blade platforms, it appears that the product of Violette would be the same or similar as the blade platforms claimed.

Claims 11, 12, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gastebois in view of Violette and further in view of Pearcey (3,494,709). The apparatus of Gastebois as modified by Violette in the above rejection of claim 2 shows the invention substantially as claimed except for the use of cast single crystal microstructure construction. Pearcey teaches the use of cast single crystal microstructure parts for use in gas turbines, so that the components exhibit exceptional physical and mechanical properties including tensile strength, ductility, creep resistance, low-cycle fatigue resistance, and thermal shock resistance. It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the apparatus of Gastebois, as modified by the teachings of Violette, out of a cast single crystal microstructure casting so that the invention exhibited exceptional physical and mechanical properties.

Allowable Subject Matter

Claims 9 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The prior art cited but not reference in this office action to provided other examples of non-integral blade platforms. Cook shows a non-integral blade platform with attachment members. Craig shows a non-integral blade platform that conforms to the blade shape. Ravenhall shows a non-integral blade platform of ceramic construction.

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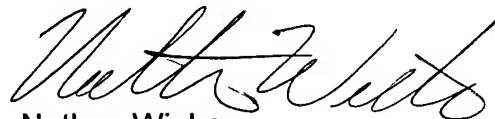
Strassberger shows a non-integral blade platform that is attached to the gas turbine wheel and conforms to the blade shape.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan Wiehe
Examiner
Art Unit 3745



EDWARD K. LOOK
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7/8/05